

REMARKS

Claims 1-9 were examined and reported in the Office Action. Claims 1-8 are rejected. Claim 9 is canceled. Claims 1, 5 and 7 are amended. Claims 1-8 remain.

Applicant requests reconsideration of the application in view of the following remarks.

I. Drawings

It is asserted in the Office Action that Figs. 2A and 2B should be provided with better contrast. Applicant submits a replacement with Figs. 2A and 2B having a better contrast. Approval is respectfully requested.

II. Specification

It is asserted in the Office Action that the Specification includes informalities, some typographical and some grammatically improper. It is also asserted that a substitute specification be submitted. Applicant shall subsequently submit a substitute specification following the submission of this response.

III. 35 U.S.C. §102(e)

It is asserted in the Office Action that claims 1-14 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,649,503 issued to Kim et al. ("Kim"). Applicant respectfully traverses the aforementioned rejection for the following reasons.

According to MPEP §2131,

[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.' (Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). 'The identical invention must be shown in as complete detail as is contained in the ... claim.' (Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)). The elements must be arranged as required by the claim, but this is not an ipsissimis verbis test, *i.e.*, identity of terminology is not required. (In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed.

Cir. 1990)).

Applicant's claim 1 contains the limitations of

a) forming a plurality of patterns on a semiconductor substrate, wherein narrow and deep gaps are formed therebetween; b) forming a flowable dielectric layer to fill the gaps between the patterns wherein step b) is carried out at a temperature in a range of about -10 °C to about 150 °C under a pressure ranging from about 10 mTorr to about 100 Torr, wherein a reaction source uses a mixture gas of $\text{SiH}_x(\text{CH}_3)_y$ ($0 \leq x \leq 4$, $0 \leq y \leq 4$), H_2O_2 , O_2 , H_2O and N_2O ; c) carrying out an annealing process for densifying the flowable dielectric layer and removing moisture therein; d) forming a plurality of contact holes by selectively etching the flowable dielectric layer so as to expose predetermined portions of the semiconductor substrate; e) forming a barrier layer on sidewalls of the contact holes for preventing micro-pores in the flowable dielectric layer; f) carrying out a cleaning process in order to remove native oxides and defects on the semiconductor substrate; and g) forming a plurality of contact plugs by filling a conductive material into the contact plugs.

Kim discloses methods for forming integrated circuit devices. Kim, however, does not teach, disclose or suggest a method for forming a flowable dielectric layer to fill the gaps between the patterns wherein the step b) is carried out at a temperature in a range of about -10 °C to about 150 °C under a pressure ranging from about 10 mTorr to about 100 Torr, wherein a reaction source uses a mixture gas of $\text{SiH}_x(\text{CH}_3)_y$ ($0 \leq x \leq 4$, $0 \leq y \leq 4$), H_2O_2 , O_2 , H_2O and N_2O .

Therefore, since Kim does not disclose, teach or suggest all of Applicant's claim 1 limitations, Applicant respectfully asserts that a *prima facie* rejection under 35 U.S.C. § 102(e) has not been adequately set forth relative to Kim. Thus, Applicant's claim 1 is not anticipated by Kim. Additionally, the claims that directly or indirectly depend on claim 1, namely claims 2-8, are also not anticipated by Kim for the same reason.

Accordingly, withdrawal of the 35 U.S.C. §102(e) rejection for claims 1-8 is respectfully requested.

IV. Request for Information under 37 CFR § 1.105

It is asserted in the Office Action that information is requested for “a low temperature undoped dielectric” as recited in claim 9. Applicant has canceled claim 9. Accordingly, the request under 37 CFR § 1.105 is moot.

V. Claim 9 Not Rejected Over Prior Art

Applicant notes that claim 9 is not rejected over prior art. Applicant has amended claim 1 to include the limitations of claim 9, albeit the deleted limitation of “a low temperature undoped dielectric.”

Applicant respectfully asserts that claims 1-8, as they now stand, are allowable for the reasons given above.

CONCLUSION

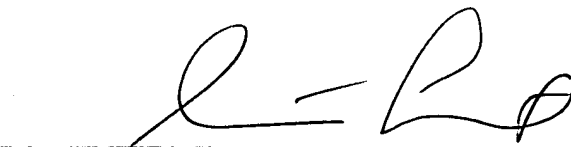
In view of the foregoing, it is believed that all claims now pending, namely 1-8, patentably define the subject invention over the prior art of record and are in condition for allowance and such action is earnestly solicited at the earliest possible date.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly extension of time fees. If a telephone interview would expedite the prosecution of this Application, the Examiner is invited to contact the undersigned at (310) 207-3800.

Respectfully submitted,

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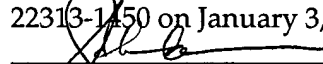
Dated: January 3, 2006

By: 
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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail with sufficient postage in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia 22313-1450 on January 3, 2006.


Jean Svoboda